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A GORGEOUS VINE FROM WEST AFRICA

Combretum grandiflorum, L.

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THE TROPICAL FORESTS of the world have a great many vines with brilliant colored flowers but the traveller in the jungle seldom sees them, except at a great distance, for they climb to the tops of the tall trees and spread out their flowering branches to the sunshine for the birds and monkeys to enjoy.

Many of these vines can however be brought under cultivation and made to flower near the ground where people can enjoy their beauty and fragrance. I would not dare venture a guess as to the number of handsome flowering vines which might be gathered together and grown successfully in this region of South Florida, it would of course run into the hundreds. Many have not even been described and named by botanists; the tropical forests are vast and seed pods in tree tops far above one's head are difficult to collect.

It is therefore with peculiar pleasure that I present to the public of South Florida, *Combretum grandiflorum*, a beautiful vine from the forest regions of West Africa, one with whose introduction the name of the Allison V. Armour Expedition will always be connected.

This vine is not new in the sense that botanists have not known of it, for it was named by the great Swedish botanist Linnaeus, and its name in botanical history is connected with the tragic love affair of the Italian botanist who first collected it. Vitaliano Donati lived in the beginning of the eighteenth century, 1717—1762, and was sent to the Orient by the King of Sardinia to collect specimens for his Royal Museum. In Alexandria he fell in love with a pretty girl who refused to marry him unless he would first take her brother as his assistant. This Donati did, but the scoundrel not only robbed him of his money but stole all the botanical and other collections he had made in Africa and escaped with them to France and later to Constantinople. He then sent the plants to Linnaeus for sale. Poor

Donati died on the ship on his way to India. Linnaeus gave a name to the genus which has no particular meaning, as he sometimes did. Possibly his supply of names was short for the moment.

This species, *grandiflorum*, is only one of many attractive vines of the genus which deserve trial here. The botanics record over 330 species of *combretum* but many of them are trees. They seem to be scattered pretty well through the tropical regions of the world with the exception of Australia and Polynesia.

My acquaintance with the vines dates back to the great freeze of 1917 and to the little garden on Brickel Avenue, for near the pathway there stood a small plant of *Combretum comosum* (28288) and its leaves were so badly scorched by the cold that Simmonds and I thought it was doomed, but to our delight it sent out a new growth in a few days and quite recovered. It came to us from Sierra Leone and its pretty red flowers charmed us at the time. It seems to have faded from our collections.

It was not until 1925 that I saw again a *combretum* vine. I was with my old friend Morton Wheeler in the town of Las Palmas on Grand Canary where we had just landed from Mr. Armour's yacht "Utowana." We were passing the Bishop's house and Wheeler had just declared that he would like to see the interior of a bishop's house; he was always curious about such things. I happened to look up and hanging over the high wall that enclosed the garden I saw the bright red flower clusters of a vine I had never seen before. It was so striking that I determined to have seeds of it for Florida.

Together we approached the door of the rather impressive residence and when the servant came to see who had rung the bell, I explained that we had seen the beautiful flowering vine in the patio from outside and wanted to look at it more closely and if possible get some seeds of it to



A few of the individual flower clusters of a large spray from the original vine of *Combretum grandiflorum* which is growing in the garden at Chapman Field. The leaves at the tip are wine red and the flowers are two shades of handsome scarlet. Photo by Harold Loomis.

send to America. This was enough of an introduction, as I had assured Wheeler it would be, and a priest at once appeared who invited us into the garden. It was July and the flowers were not very abundant but still it was a gorgeous thing, I thought. While Wheeler talked to the priests I looked the flowers over, hoping to find some good seeds but although I spent half an hour under the vine which sprawled out over a half tumbled down arbor I could find none that was mature.

The priest did not know the name of the vine, which was not strange, for how many people do know the names of the plants around them? I was able to find out that it was a *Combretum* from my books but I was obliged to sail away wondering how I could get the seeds of it or whether I should ever see its like again.

Two years later, in 1927, when I was once more Mr. Armour's guest, I saw a *combretum* vine again. It was growing in the little experimental garden which Mr. A. J. Brooks had started at Cape May at the mouth of the Gambia river in that smallest of all the British colonies of West Africa.

The vine was blooming and fruiting and from it I gathered a quantity of its attractive papery, winged fruits. Mr. Brooks to whom we owe other interesting plants offered to send more seeds of it later, which he did. The seeds I had gathered arrived in Washington in March 1927 and were given the number 72993 and it is from these seeds that the vines now growing in Chapman Field garden and various places about Coconut Grove have come.

There can be little doubt now that this really gorgeous vine, *Combretum grandiflorum*, Don. is perfectly at home in South Florida and it does not require a great deal of imagination to picture the walls of houses, stretches of high enclosing masonry, pergolas and even perhaps tall casuarina or other trees covered with its rampant shoots. These shoots have a curious method of holding on to supports. The bases of the leaves which protrude from the branch for a half inch or more harden after the leaves fall and form climbing spines. The bases of the leaf stalks remain attached to the shoot.

It is difficult to give much of a word picture of this vine for it passes in blooming through various phases. The first sign is the reddening of

the leaves at the tips of the flowering branches, where they take on a handsome almost wine red color. Then appear the long flower clusters. These tend to stand out horizontally with all of the individual flowers standing erect like the bristles of a brush. Each flower, and there are hundreds in every cluster, is a beautiful delicate cup of dark red from which rises a bunch of long slender stamens that are of a more brilliant and lighter color. If you look into the cluster you will find that every flower cup is filled to the brim with nectar. If you invert the cluster over the palm of your hand it will be flooded with the sweet liquid, provided you do this in the early morning before the bees and wasps have drunk their fill.

So floriferous is this species that when at its best its long scarlet flower clusters nearly conceal the glossy green foliage, abundant as it is, and make an arbor or the roof of a house which is covered by it a striking object in the landscape. Its color is not like that of some *Bougainvilleas*, difficult to be harmonized with other colors, for there is not a trace of magenta in its make up.

With the passing of the flowers appear masses of winged fruits that are extremely decorative for they are at first pink edged and slowly as their thin wings grow larger turn yellowish and then brown and make objects of beauty for flower arrangements.

This vine is a sun lover and according to my experience refuses to flower profusely if given a shady situation. Furthermore it responds amazingly to severe pruning and the most magnificent specimens in this locality are two that have been systematically cut back as one would prune a grape vine. It loves moisture but will grow well on our rocky soils and stand our dry periods. How much cold it will endure remains yet to be determined but since many tropical vines when they are old will often stand temperatures below freezing, this will probably spread up the center of the state for a considerable distance.

After seeing this species in the garden at Bathurst in Gambia I had my attention called to numerous species of the genus during my stay in West Africa for I had as companion Dr. J. M. Dalziel co-author with J. Hutchinson of "The Useful Plants of West Tropical Africa" and who had the honor of having a species from the Gold Coast named after him. I see that he has listed



The original vine of *Combretum grandiflorum* now ten years old as it appeared this spring (February-March) after it had been severely pruned back and given a liberal amount of barnyard manure. Nothing but a color photograph of good quality could give an idea of its gorgeousness. Chapman Field Garden. Photo by Harold Loomis.

25 species as occurring in West Africa, and gives many uses made by the natives of their leaves, bark, and roots.

I recall a sickeningly hot ride which Dr. Dalziel and I made in an open automobile at midday across the plains of Gambia from Georgetown to Kuntaur when we found the low scrub of that sunscorched area which had been burnt over recently by fire covered with vines of *combretum*. Here and there were trees of the same genus and as I collected the seeds from the charcoal covered ground I could not help feeling that trees and vines such as these could probably withstand the forest fires that sweep the pine regions of southern Florida.

Dalziel and I searched for *combretums* in the jungles of Sierra Leone about Njala and found one handsome species which is illustrated in "Exploring for Plants," page 483. This pretty species did not survive the trip to Washington, however.

There were some other attractive forms in the Fouta Djallon mountains of French Guinea but unfortunately not in fruit. The only one which was successfully landed in the Chapman Field Garden is a species, *C. smeathmanii*, (73930) with small clusters of greenish white flowers; decorative but not striking.

Other species of *combretums* which do not really rival this Gambian form come from Upper Guinea and the Congo and have found their way into our collection at Chapman Field and are certainly deserving of attention for they are handsome vines and might furthermore be very useful for breeding purposes.

There is the Madagascar *C. coccineum* (77900) which Charles Swingle sent in from the Diego

Suarez in 1928 which has small slender bright red clusters of flowers but seems to shed its leaves when it flowers; the Guatemalan species that Wilson Popenoe sent in 1929, *C. farinosum*, 81226 with dull grey-green leaves and flower clusters which are almost as striking as those of *grandiflora*, but all of one shade of bright scarlet; *C. paniculata* 64536 which is also a Madagascar species but which came in through Charlotte Lambie of Addis Ababa, Abyssinia, and which would rival *grandiflora* were it as floriferous. As it stands, however, it is a very useful species for outbuildings because of its large oval leaves and extremely rank growth.

A procession of personalities comes before me as I sit and look up at the vines of *combretum* now flowering on my house in the Kampong. I see the image of the Italian boy infatuated by the pretty Egyptian girl; that of my old friend Dalziel with whom I wandered many miles in the scorching heat of Gambia and on the slopes of the Fouta Djallon Mountains where we both have longed to return; that of Charles Swingle in Madagascar; and that of Wilson Popenoe who has sent in so many valuable and fascinating trees and plants from the mountains of Guatemala. Donati has long since gone but the others are still where I trust this slight tribute to their flair for pretty vines may reach them and make them glad that they have contributed something to the growing beauty of this new region which is filling up with flower lovers. It may please them to know that the vines chosen to head the list of the Vine Collection in the Fairchild Tropical Garden which Mrs. John Semple has made possible are to be *Combretums* because of their splendid characters as showy trellis vines.

HERNANDIA OVIGERA A HANDSOME STRAND TREE FROM SUMATRA

BY
DAVID FAIRCHILD

IT WAS in 1926 that I first saw this handsome tree. We were just off on the Allison V. Armour Expedition to the Malay Archipelago, Mrs. Fairchild, our son Graham, Howard Dorsett, his son Jim and I, and on the way from Ceylon to Sumatra our boat touched for a few hours at the tiny island of Pulo We, off Sumatra's northern tip.

It was good to be ashore after the long trip and we were a bit bewildered by the novelty of the place. There was a beautiful beach strewn with the most amazing collection of seeds I have ever seen, brought in there by the ocean currents which sweep three great seas, all of them fringed with tropical forests.

As we wandered along marvelling at the strand vegetation I happened to look up into a large spreading tree with great glossy leaves and could scarcely believe my eyes when I saw hanging from it fruits the size of seckel pears, a curious dull white in color, and each of the fruits had a round hole where the blossom end ought to be and I could see through this hole a black, round seed the size of a marble.

Dorsett and I had been keen to find trees that would grow along the shores of South Florida and were delighted at finding so beautiful a one at the very beginning of our search. Certainly this one was demonstrating its ability to grow where the salt sea breezes swept through its branches constantly, so we set to work at once to collect all the seeds we could find. The hollow translucent fruits were like bells with black clappers nearly filling their round mouths and the contrast between the pale fruits and the black clappers was most striking. Inside the rough parchment coating of the clapper was the black seed itself.

We packed the seeds carefully and sent them back to Washington where they arrived on May 14th, 1926 and were recorded in the printed

inventories of the Office of Plant Introduction as S.P.I. 67185.

Upon our return to America in 1927 Mrs. Fairchild and I built a permanent home on "The Kampong" in Coconut Grove, Florida, and began looking over our plant introductions to find suitable trees and shrubs with which to relieve that ghastly look of desolation which always surrounds a newly built house wherever it is placed.

The seeds of *Hernandia* had grown by this



Howard Dorsett with a bunch of fruits of the strand tree *Hernandia* beside which he is standing. On the beach near Sabang of the island, Pulo We, off the north tip of Sumatra. February 17, 1926.

The seeds from these fruits arrived in Washington May 14th (48 of them) and were given the SPI number 67185.



As soon as the house on "The Kampong" was finished the little *Hernandia* tree was planted beside the corner of the porch. This was in the spring of 1928.

time into attractive little potted plants. Their glossy leaves and general look of health and vigor appealed to us and we decided to give one of them a place of honor close beside the porch on which we expected to spend a great deal of time.

It started off with a rush, making leaf after leaf in quick succession. So rapidly did it grow that by 1930 it was large enough to have its picture taken as an illustration for our book "Exploring for Plants" describing the Allison V. Armour Expeditions. It was by this time over three feet high and we had great satisfaction in watching it shoot up, little anticipating that its roots would some day play havoc with the terrace walk three feet away from it.

By 1933 the *Hernandia* had grown so large as to be a most suitable tree from which to hang the little swinging chair for our first grandchild, Hugh Muller. That same year Allison Armour visited us and was photographed under its spreading branches and Dorsett came too and posed under it. Mr. and Mrs. Francis Whitehouse, companions of the Utowana Cruises, who had cleaned many seeds we collected, were

with us at Christmas and wondered at the size of this result of the Expedition to the Orient.

I think it was in the winter of 1933-34 that the cold weather made the shiny leaves fall in great quantities and curious black spots appeared upon them comparable to spots caused by the cold on cotton leaves. But these appearances, which for a time made me doubt if the tree would prove suited to the Florida climate, all passed away.

It was in 1934 I believe, that the tree first fruited and we saw again the curious fruits that had so intrigued us eight years before. Some of these seeds grew, too, and we had the pleasure of giving little trees away to our friends.

Then the storm of 1935 came. I arrived the day after, and my daughter met me at the train. Almost my first question was: "Has the *Hernandia* gone?" To my delight she said it had stood the hurricane wind perfectly; its supple branches waved frantically during the ordeal and most of its leaves were blown off but it scarcely lost a branch of any size whereas the *Flor de Mico* (*Phyllocarpus septentrionalis*) near by was torn



It grew rapidly and by July of 1930 began to show its full sized glossy green leaves and attract some attention.

almost to pieces. Since then we have felt quite safe about it, knowing it will probably stand any cold or any wind that South Florida is likely to be subjected to.

Honesty compels me to say that it has one drawback as a dooryard tree; it does drop its leaves, a few each day, like a child scattering its toys, but its beauty makes us more than glad to clean up after it.

The question of pruning—shaping—such a tree is one about which there is a great deal of discussion. Every fall when we return our first task is to trim up the *hernandia* whose lower branches have always grown so dense as to interfere with the view from the porch. In 1936 as our man Sands was sawing off a large branch and it appeared about to crash down on the tile pool on the terrace, in an effort to help I stepped off clumsily into the pool and broke my left arm, which laid me up for some weeks. The next year Mrs. Fairchild undertook to manage the pruning and overdid it, cutting off one of the lower branches at the trunk. The result was so disastrous that it cost her many unhappy hours and she was much chagrined to have Noel Chamberlain, the landscape architect, notice at once the loss of that branch. "You have lost the deep shadow which brought out the sunshine on the distant palm trees so brilliantly," he said. However, I tell her there will be a rearrangement of the branches such as only a tree can make and other effects will be produced.

I have put in these little personal experiences to emphasize the role these living things can play in our lives. They slowly but surely change our surroundings, our environment, often so completely altering it that it bears little resemblance to what it once was.

My scientific friends will demand something in the way of a botanical account of this *Hernandia ovigera*, (Syn. *H. peltata*). C. A. Backer's most interesting "Woordenboek" says the genus was named after the Spanish court physician Hernandez, who was born in a little village west of Toledo in 1514, not so very long after the discovery of America, and was sent to Mexico by King Philip the second in 1571. He wrote a voluminous book on the plants of Mexico of which parts only appeared in 1615. The balance was long supposed to have been burned in a great fire in the Escorial but nearly two centuries



When the *Hernandia* tree was six years old, in '33, Hugh Muller, our grandson, made his first visit to "The Kampong" and swung in his little chair from one of the branches.

later it was discovered intact and in 1790 it was published.

The genus *Hernandia* was established by the Franciscan monk and famous botanical artist Charles Plumier who probably saw the tree on one of the islands of the West Indies while sketching there with Surian in 1689. It consists of ten species, according to Willis, and these are found on the strands of both the East and the West Indies. Puerto Rico, for instance, has a species considered by certain botanists the same as this one from Sumatra. I am not following them however but calling my tree *Hernandia ovigera*.

The *Hernandia* has male and female flowers borne on the same tree. They are curious looking greenish yellow blossoms growing in large panicles. They are without true petals but have six sepals, opposite the three outer ones of which stand the three stamens and between these stamens are three pairs of glands. The anthers open

by means of valves somewhat similar to those on the stamens of the avocado and the sassafras, which for sometime made botanists classify the *Hernandia* with the Lauraceae. Now it is classed with other genera in the order Hernandiaceae. The stamens in the female flower are reduced to gland-like staminodia, similar to the glands in the male flower.

The pear-shaped fruit is composed of the enlarged cup-like cupula which develops at the base of the ovary and, growing around the seed and its papery black covering, almost encloses it. There is nothing spectacular about the *Hernandia* flowers, curious though they are, but when the fruits fall on the grass and you pick one up, you can hardly fail to be intrigued by the unusual appearance of the thing.

When we packed up the seeds of the *Hernandia* in Sumatra to send them to Washington, the whole question of the uses of the tree came up. Dr. Loerzing, of the Sibolangit Botanic Garden, who called it *Hernandia peltata*, Meissn. and whose knowledge of the Sumatran flora was very considerable, knew of none. I was much surprised therefore a few years ago to receive a letter from a manufacturer of depilatories saying that, according to the literature, the leaves of *Hernandia sonora* contained a juice which had a very powerful depilatory action, destroying hair wherever applied, and that it was odorless. I could not imagine where the statement had originated and was informed that it was to be found in the Encyclopedia of Horticulture over the signature of no less a person than Alfred Rehder, of the Arnold Arboretum. I appealed for authentic information to Dr. Rehder and he unearthed one of those curious mistakes which sometimes may run through the literature for generations, being repeated by one author after another.* There is no foundation for this statement and yet the error appeared so early that even in so ancient a volume as "The Treasury of Botany," published in 1873, it is mentioned. And so our *hernandia* has escaped becoming a com-

mercial tree, at least until some other use shall have been discovered.

I am secretly glad, for to us the beauty of its smooth straight trunk, interesting fruits and shiny leaves is reason enough for wanting to grow it and it will always be associated in our minds with the lovely little island of Pulo We in the Indian Ocean.

* According to Dr. Rehder it appears that the error dates back to a misidentification by some ancient writer of one of Rumphius' descriptions of a species of tree and that not until 1894 was it discovered that the tree he referred to was a species of Euphorbiaceae now known as *Endospermum moluccanum* (Teijsm. & Binn.)



The great storm of 1935 swept it almost clean of leaves but otherwise did it little harm. By this time it had become a handsome shade tree. Hugh Muller, then a child of three, gives a measure of its size.



The Hernandia tree ten years after it was a seed lying in a fruit on the strand at Pulo We. It has had many of its lower branches cut off but its heavy glossy foliage shades the porch very well now. It has scattered many fruits on the grass and its large leaves fall from time to time throughout the year. 1937.

